

STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0002411

Owner: Aeroquip - Vickers
Address: 1111 Superior Avenue, Cleveland, OH 44114

Continuing Authority: Unisys Corporation
Address: 3199 Pilot Knob Road MSF1B05, Eagan, MN 55121

Facility Name: Vickers/Eaton Hydraulics
Address: 2800 West 10th Street, Joplin, MO 64801

Legal Description: E ½, NE ¼, Sec. 8, T27N, R33W, Jasper County

Receiving Stream: Outfalls #001 & #003 - Tributary to Turkey Creek (U)
Outfall #002 - Tributary to Short Creek (U)

First Classified Stream and ID: Turkey Creek (P)(03216)
USGS Basin & Sub-watershed No.: (11070207-160020)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - Industrial - SIC #1629

Stormwater runoff.

Design flow is 300,000 gallons per day.

Outfall #002 - Industrial - SIC #1629

Stormwater runoff.

Design flow is 156,000 gallons per day.

Outfall #003 - Environmental Remediation - SIC #4959

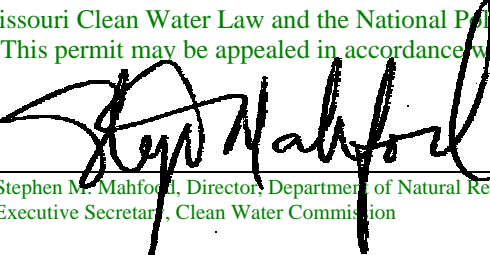
Environmental cleanup/skimmer/air strippers. Outfall #003 also receives water from metal reducing bacteria system.

Design flow is 0.6 MGD.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

March 5, 2004

Effective Date


Stephen M. Mahford, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

March 4, 2009

Expiration Date
MO 780-0041 (10-93)

Jim Hull, Director of Staff, Clean Water Commission

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfalls #001 & #002 (Note 1) Flow	MGD	*		*	once/week	24 hr. total
pH - Units	SU	**		**	once/month	grab
Biochemical Oxygen Demand ₅	mg/L	*		*	once/month	grab
Chemical Oxygen Demand	mg/L	***		***	once/month	grab
Settleable Solids	mg/L	2.5		1.5	once/month	grab
Oil and Grease	mg/L	15		10	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED MONTHLY; THE FIRST REPORT IS DUE April 28, 2004.

Zinc, Total Recoverable	mg/L	*	*	once/quarter****	grab
Zinc, Total Dissolved	mg/L	0.44	0.44	once/quarter****	grab
Barium, Total Recoverable	mg/L	*	*	once/quarter****	grab
Cadmium, Total Recoverable	mg/L	0.017	0.017	once/quarter****	grab
Cyanide, Amenable to Chlorination	mg/L	0.005	0.005	once/quarter****	grab
Chromium, Total Recoverable	mg/L	0.042	0.042	once/quarter****	grab
Nickel, Total Recoverable	mg/L	0.650	0.650	once/quarter****	grab
Lead, Total Recoverable	mg/L	0.029	0.029	once/quarter****	grab
Arsenic, Total Recoverable	mg/L	*	*	once/quarter****	grab
Carbon Tetrachloride	mg/L	0.005	0.005	once/quarter****	grab
1,2 Dichloroethane	mg/L	*	*	once/quarter****	grab
1,1,1 Trichloroethane	mg/L	0.1	0.1	once/quarter****	grab
1,1 Dichloroethane	mg/L	0.1	0.1	once/quarter****	grab
2 Chloroethylvinyl Ether	mg/L	*	*	once/quarter****	grab
Chloroform	mg/L	*	*	once/quarter****	grab
1,1 Dichloroethylene	mg/L	0.0032	0.0032	once/quarter****	grab
1,2 Transdichlorethylene	mg/L	0.1	0.1	once/quarter****	grab
Ethylbenzene	mg/L	*	*	once/quarter****	grab
Methylene Chloride	mg/L	*	*	once/quarter****	grab
Tetrachloroethylene	mg/L	*	*	once/quarter****	grab
Toluene	mg/L	*	*	once/quarter****	grab
Chloroethane	mg/L	0.1	0.1	once/quarter****	grab
Vinyl Chloride	mg/L	0.05	0.05	once/quarter****	grab
Trichloroethylene	mg/L	0.05	0.05	once/quarter****	grab
pH - Units	SU	**	**	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE July 28, 2004. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH

HEREIN.

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PERMIT NUMBER MO-0002411

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #002 Temperature	°F	*		*	once/month	grab
Outfall #003 (Notes 1 & 2) Flow	MGD	*		*	once/week	24 hr. estimate
Biochemical Oxygen Demand ₅	mg/L	*		*	once/week	grab
Chemical Oxygen Demand	mg/L	90		60	once/week	grab
Total Suspended Solids	mg/L	100		30	once/week	grab
Oil and Grease	mg/L	15		10	once/week	grab
pH - Units	SU	**		**	once/week	grab
Zinc, Total Recoverable	mg/L	*		*	once/month	grab
Zinc, Total Dissolved	mg/L	0.44		0.44	once/month	grab
Barium, Total Recoverable	mg/L	*		*	once/month	grab
Cadmium, Total Recoverable	mg/L	0.017		0.017	once/month	grab
Cyanide, (Amenable to Chlorination)	mg/L	0.005		0.005	once/month	grab
Chromium, Total Recoverable	mg/L	0.042		0.042	once/month	grab
Nickel, Total Recoverable	mg/L	0.650		0.650	once/month	grab
Lead, Total Recoverable	mg/L	0.029		0.029	once/month	grab
Arsenic, Total Recoverable	mg/L	*		*	once/month	grab
Carbon Tetrachloride	mg/L	0.005		0.005	once/month	grab
1,2 Dichloroethane	mg/L	*		*	once/month	grab
1,1,1 Trichloroethane	mg/L	0.1		0.1	once/month	grab
1,1 Dichloroethane	mg/L	0.1		0.1	once/month	grab
2 Chloroethylvinyl Ether	mg/L	*		*	once/month	grab
Chloroform	mg/L	*		*	once/month	grab

MONITORING REPORTS SHALL BE SUBMITTED QUARTERLY; THE FIRST REPORT IS DUE July 28, 2004. THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Part I
STANDARD CONDITIONS DATED October 1, 1980, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH

HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 4 of 9	
					PERMIT NUMBER MO-0002411	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #003 (continued)</u>						
1,1 Dichloroethylene	mg/L	0.0032		0.0032	once/month	grab
1,2 Transdichlorethylene	mg/L	0.1		0.1	once/month	grab
Ethylbenzene	mg/L	*		*	once/month	grab
Methylene Chloride	mg/L	*		*	once/month	grab
Tetrachloroethylene	mg/L	*		*	once/month	grab
Toluene	mg/L	*		*	once/month	grab
Chloroethane	mg/L	0.1		0.1	once/month	grab
Vinyl Chloride	mg/L	0.05		0.05	once/month	grab
Trichloroethylene	mg/L	0.05		0.05	once/month	grab
Temperature	°F	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>QUARTERLY</u> ; THE FIRST REPORT IS DUE <u>July 28, 2004</u> .						
Whole Effluent Toxicity (WET) Test	% Survival	See Special conditions			once/year	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>ANNUALLY</u> ; THE FIRST REPORT IS DUE <u>October 28, 2004</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Part I</u> STANDARD CONDITIONS DATED <u>October 1, 1980</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

MO 780-0010 (8/91)

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.0-9.0 pH units.
- *** Monitoring requirement only, however limitations may be re-established if effluent analysis indicates values which may result in water quality problems or are two time the permit limits in permit dated June 2, 1989.
- **** Sample once per quarter in the months of March, June, September & December.

Note 1 - All Outfalls are to be monitored, analyzed and reported separately.

Note 2 - Outfall #003 shall be sampled immediately downstream of Outfall #001.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
 - (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.
5. Report as no-discharge when a discharge does not occur during the report period.
 6. Permittee shall submit six month progress reports to the Water Pollution Control Program on the ongoing cleanup of the site. These reports shall also include the source and amount of wastewater discharged to municipal sewers or transported off-site for disposal.
 7. Beyond the mixing zone, water contaminants shall not cause or contribute to stream temperatures in excess of 90°F nor raise or lower the temperature of a stream more than 5°F. (Definitions as given in 10 CSR 20 - Chapter 2 of 7)
 8. If permittee desires relief from monitoring and effluent limits at Outfall #001, a study should be conducted to ascertain the quality of the stormwater entering the Vickers property as compared to the quality of the stormwater leaving the property.

C. SPECIAL CONDITIONS (continued)

9. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than $\pm 10\%$ from true discharge rates throughout the range of expected discharge volumes.

10. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

- (a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
- (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
- (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
- (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
- (e) There shall be no significant human health hazard from incidental contact with the water;
- (f) There shall be no acute toxicity to livestock or wildlife watering;
- (g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
- (h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

11. Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
#003	100%	Annually	24 hr. composite	June

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a single-dilution test in the months and at the frequency specified above. If the effluent passes the test, do not repeat the test until the next test period.
Submit test results along with complete copies of the test reports as received from the laboratory within 30 calendar days of availability to the WPCP, Planning Section, P.O. Box 176, Jefferson City, MO 65102.
- (2) If the effluent fails the test, a multiple dilution test shall be performed within 30 calendar days, and biweekly thereafter, until one of the following conditions are met:

- (a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
- (b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.

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C. SPECIAL CONDITIONS (continued)

11. Whole Effluent Toxicity (WET) (continued)

(a) Test Schedule and Follow-Up Requirements (continued)

- (3) The permittee shall submit a summary of all test results for the test series along with complete copies of the test reports as received from the laboratory to the WPCP, Planning Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
- (4) Additionally, the following shall apply upon failure of the third test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact WPCP, Planning Section to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the Planning Section of the WPCP within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
- (5) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.
- (6) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
- (7) All failing test results shall be reported to WPCP, Planning Section, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
- (8) When WET test sampling is required to run over one DMR period, each DMR report shall contain information generated during the reporting period.
- (9) Submit a concise summary of all test results with the annual report.

(b) PASS/FAIL procedure and effluent limitations:

- (1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. The appropriate statistical tests of significance will be those outlined in the most current USEPA acute toxicity manual or those specified by the MDNR.
- (2) To pass a multiple-dilution test:
 - (a) the computed percent effluent at the edge of the zone of initial dilution, Acceptable Effluent Concentration (AEC), must be less than three-tenths (0.3) of the LC_{50} concentration for the most sensitive of the test organisms; or,

- (b) all dilutions equal to or greater than the AEC must be nontoxic.
Failure of one multiple-dilution test is an effluent limit violation.

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C. SPECIAL CONDITIONS (continued)

11. Whole Effluent Toxicity (WET) (continued)

(c) Test Conditions

- (1) Test Type: Acute Static non-renewal
- (2) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.
- (3) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.
- (4) When dilutions are required, upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
- (5) Single-dilution tests will be run with:
 - (a) Effluent at the AEC concentration;
 - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - (c) reconstituted water.
- (6) Multiple-dilution tests will be run with:
 - (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
 - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - (c) reconstituted water.
- (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms,

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for (Pimephales promelas):

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls